

WHAT IS CLAIMED IS:

1. An authenticating apparatus, comprising:

an in-vehicle communicating unit for communicating with an electric license card
5 storing license card information including a driver identification information;
an authenticating unit for authenticating said license card information; and
an activating unit for activating at least one function equipped on a vehicle,
characterized by that

said in-vehicle communicating unit is operative to obtain said license card
10 information and activating information of activating at least one function mounted on
said vehicle from said electric license card, and said activating unit is operable to
activate functions designated by said activating information, when said authenticating
unit correctly authenticates said license card information.

15 2. The authenticating apparatus as set forth in claim 1, in which said in-vehicle
communication unit is operative to transmit position information specified by a
position on the outer surface of said vehicle when acquiring said license card
information and said activating information, and

20 said activating unit is operative to activate functions designated by said activating
information transmitted from said electric license card in accordance with said position
information.

25 3. The authenticating apparatus as set forth in claim 2, in which said in-vehicle
communicating unit is operative to transmit said position information, when said
electric license card is existing adjacent to said in-vehicle communicating unit, and

said authenticating unit is operative to authenticate said license card information,
when request for authenticating is issued from said electric license card.

4. An authenticating apparatus, comprising:

30 an in-vehicle communicating unit for communicating with an electric license card
storing license card information including a driver's identification information; an
authenticating unit for authenticating said license card information; an activating unit
for activating at least one of operations of a vehicle; and a storing unit for storing
functions mounted on said vehicle to be permitted for each of drivers by relating said
35 functions to said license card information,

characterized by that

said in-vehicle communicating unit being operative to obtain said license card information from said electric license card, and said activating unit activates functions related to said license card information stored in said storing unit, when said authenticating unit correctly authenticates said license card information.

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5. The authenticating apparatus as set forth in one of claims 1 - 4, in which said activating unit is connected to an engine control apparatus for controlling an engine of said vehicle, and is operative to activate said engine, when said authenticating unit correctly authenticates said license card information.

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6. The authenticating apparatus as set forth in one of claims 1 - 5, in which said activating unit is connected to a door unlocking apparatus for unlocking doors of said vehicle, and is operative to unlock said doors, when said authenticating unit correctly authenticates said license card information.

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7. The authenticating apparatus as set forth in one of claims 1 - 5, in which said activating unit is connected to an in-vehicle telephone apparatus, and is operative to activate said in-vehicle telephone apparatus, when said authenticating unit correctly authenticates said license card information.

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8. The authenticating apparatus as set forth in one of claims 1 - 5, in which said activating unit is connected to an in-vehicle audio apparatus, and is operative to activate said in-vehicle audio apparatus, when said authenticating unit correctly authenticates said license card information.

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9. The authenticating apparatus as set forth in one of claims 1 - 5, in which said activating unit is connected to a combination meter apparatus, and is operative to activate said combination meter apparatus, when said authenticating unit correctly authenticates said license card information.

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10. The authenticating apparatus as set forth in one of claims 1 - 5, in which said activating unit is connected to an emergency report apparatus, and is operative to activate said emergency report apparatus, when said authenticating unit correctly authenticates said license card information.

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11. The authenticating apparatus as set forth in one of claims 1 - 5, in which said

activating unit is connected to a road-vehicle communication apparatus, and is operative to activate said road-vehicle communication apparatus, when said authenticating unit correctly authenticates said license card information.

5 12. An authenticating apparatus, comprising:

 a communicating unit for communicating with a on-certificate communicating unit mounted on an electric license card;

 a storing unit for storing a security code and corresponding personal information;

 a security code inputting means for inputting said security code for licensing at least one in-vehicle apparatus;

 an information registering/deleting means for registering said security code and said personal information read out from said electric license card in response to said security code inputted from said security code inputting means in said storing unit, and deleting said security code and said personal information registered in said storing unit;

15 a security code transmitting means for sequentially transmitting security codes registered in said storing unit from said communicating unit to said on-certificate communicating unit until said electric license card authenticates one of said transmitted security codes, before starting to communicate with said communicating unit;

20 a personal authenticating means for activating at least one of said in-vehicle apparatuses, when personal information received by said in-vehicle communicating unit agrees with personal information registered in said storing unit.

13. The authenticating apparatus as set forth in claim 12, further comprises a using frequency acquisition means for acquiring and storing using frequency of every driver, and

25 said security code transmitting means being operative to transmit security code in decreasing order of using frequency stored in said using frequency acquisition means.

30 14. The authenticating apparatus as set forth in claim 12, further comprises a using record acquisition means for acquiring using record of the in-vehicle apparatuses of every driver, and

 said security code transmitting means being operative to transmit security code in order by date stored in said using record acquisition means.

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15. The authenticating apparatus as set forth in one of claims 12 - 14, further comprises

an annunciating means for annunciating a piece of annunciation annunciating restricting of security code inputting before prohibiting of security code inputting when the number of transmitting security code from said communicating unit mounted on the in-vehicle apparatus activating device to said communicating unit on the electrical 5 license card is exceeds a predetermined number and restricting information is issued from said electric license card to said communicating unit of said in-vehicle apparatus activating device.

16. An electric license card, comprising:

10 a storing unit of storing license card information including driver identifying information; and an internal communicating unit for communicating with a vehicle or in-vehicle apparatuses,
characterized by that

15 said storing means is operative to store function information informing about function of vehicle to be activated, and

said internal communicating unit is operative to inform said license card information and said function information to said vehicle or said in-vehicle apparatuses.

20 17. The electric license card as set forth in claim 16, in which said internal communicating unit is operative to receive position information of said vehicle or said in-vehicle apparatuses, and is operative to inform activating information corresponding to said position information to said vehicle or said in-vehicle apparatuses.

25 18. An authenticating system, comprising;

an electric license card providing a storing unit of storing license card information including driver identifying information, and an internal communicating unit of communicating with a vehicle or in-vehicle apparatuses; and an authenticating device providing an in-vehicle communicating unit of communicating with said internal communicating unit, an authenticating unit of authenticating said license card information, and an activating unit of activating of activating the in-vehicle apparatuses,

30 characterized by that

35 said storing means stores function information informing about function of vehicle to be activated,

said internal communicating unit being operative to inform said license card

information and said function information to said vehicle or said in-vehicle apparatuses,

said in-vehicle communicating unit is operative to receive said license card information and said activating information for activating said in-vehicle apparatuses,

5 said activating means is operative to activate said in-vehicle apparatuses designated by said function information when said authenticating unit correctly authenticates said license card information.

19. The authenticating system as set forth in claim 18, in which said authenticating unit
10 is operative to transmit authenticating result as reserving of using said in-vehicle apparatuses to said electric license card.

20. The authenticating system as set forth in claim 18, in which said authenticating device is operative to transmit operating information informing whether or not said
15 in-vehicle apparatuses have been activated as a result of authenticating.

21. The authenticating system as set forth in one of claims 18 - 20, in which said authenticating device is operative to store activating information informing which of in-vehicle apparatuses can be activated according to said electric license card, and
20 controls activating of said in-vehicle apparatuses according to said electric license card.

22. The authenticating system as set forth in one of claims 18 - 21, in which said electric license card is of a non-contact IC card type.

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23. An authenticating system, comprising:

an electric license card providing a storing unit included in an electric license card of storing license card information and security code for reading out said license card information, a communicating unit included in the electric license card of
30 communicating with a vehicle or in-vehicle apparatuses, and a security code authenticating unit for controlling transmitting by said communicating unit included in said electric license card; and

an authenticating device providing a communicating unit mounted in the authenticating device, a security code inputting unit of inputting security code, a
35 storing unit mounted on said authenticating device of storing said security code inputted from said security code inputting unit a security code, transmitting unit of

transmitting said security code stored in said storing unit mounted on said authenticating device to said communicating unit mounted on said authenticating device, and a person authenticating unit of authenticating said license card information, and of activating the in-vehicle apparatuses,

5 characterized by

said storing unit included in said electric license card being operative to store function information informing about function of the vehicle,

said communicating unit mounted on said authenticating device being operative to transmit said security code transmitted from said security code transmitting unit to said 10 electric license card,

said security code authenticating unit is operative to determine whether or not said security code transmitted from said authenticating device agrees with security code stored in said storing unit included in said electric license card, and transmits said license card information and the function information when said security code authenticating unit determines said security code transmitted from said authenticating 15 device agrees with security code stored in said storing unit included in said electric license card,

said communicating unit mounted on said authenticating device is operative to receive said license card information and said activating information informing said 20 function to be activated, and

said person authenticating unit is operative to activate said in-vehicle apparatuses designated by said function information when said person authenticating unit correctly authenticates said license card information.

25 24. The authenticating system as set forth in claim 23, which further comprises a using frequency acquisition means of acquiring using frequency of said in-vehicle apparatuses activated by said electric license card according to the user, and

said security code transmitting unit being operative to transmit security code in decreasing order of using frequency stored in said storing unit mounted on said 30 authenticating device.

25. The authenticating system as set forth in claim 23, which further comprises using record acquisition unit of acquiring using record of said in-vehicle apparatuses activated by said electric license card according to the user, and

35 said security code transmitting unit is operative to transmit security code in dating order of using record stored in said storing unit mounted on said authenticating device.

26. The authenticating system as set forth in one of claims 23 - 25, which further comprises a security code rejecting unit for rejecting further security codes when said number of continuously transmitting of security codes from said communicating unit mounted on said authenticating device to said communicating unit included in said electric license card exceeds a predetermined number, and an annunciating unit for annunciating a piece of annunciation annunciating for restricting inputting of security code before prohibiting inputting of security code.
- 10 27. An authenticating method of authenticating license card information by communicating between an electric license card storing license card information including driver identifying information, and said vehicle or said in-vehicle apparatuses mounted on said vehicle comprising:
- 15 an authentication requesting step of requesting authentication of license card information from an electric license card to a vehicle or in-vehicle apparatuses mounted on said vehicle;
- 20 an authenticating step of authenticating said license card information in said vehicle or said in-vehicle apparatuses;
- 25 an informing step of informing function information informing of said in-vehicle apparatuses to be activated to said vehicle or said in-vehicle apparatuses; and
- 30 an activating step of activating said vehicle or said in-vehicle apparatuses when said license card information is correctly authenticated.
28. The authenticating method as set forth in claim 27, which further comprises a position informing step of informing position information showing position of said electric license card to said vehicle or said in-vehicle apparatuses mounted on said vehicle, and
- 35 said electric license card informs function corresponding to said position information to said vehicle or said in-vehicle apparatuses mounted on said vehicle.
29. An authenticating method of authenticating license card information by communicating between an electric license card storing license card information including driver identifying information, and said vehicle or said in-vehicle apparatuses mounted on said vehicle comprising:
- 35 an authenticating step of authenticating said license card information in said vehicle or said in-vehicle apparatuses;

- an informing step of informing said license card information and said function information to said vehicle or said in-vehicle apparatuses mounted on said vehicle when said electric license card determines that said security code transmitted from said vehicle or said in-vehicle apparatuses mounted on said vehicle agrees with said
5 security code stored in said electric license card,
- a receiving step of receiving said license card information and function information designating said in-vehicle apparatuses to be activated by said vehicle or said in-vehicle apparatuses mounted on said vehicle,
- an activating step of activating said in-vehicle apparatuses designated by function
10 information when said vehicle or said in-vehicle apparatuses correctly authenticates said license card information.